



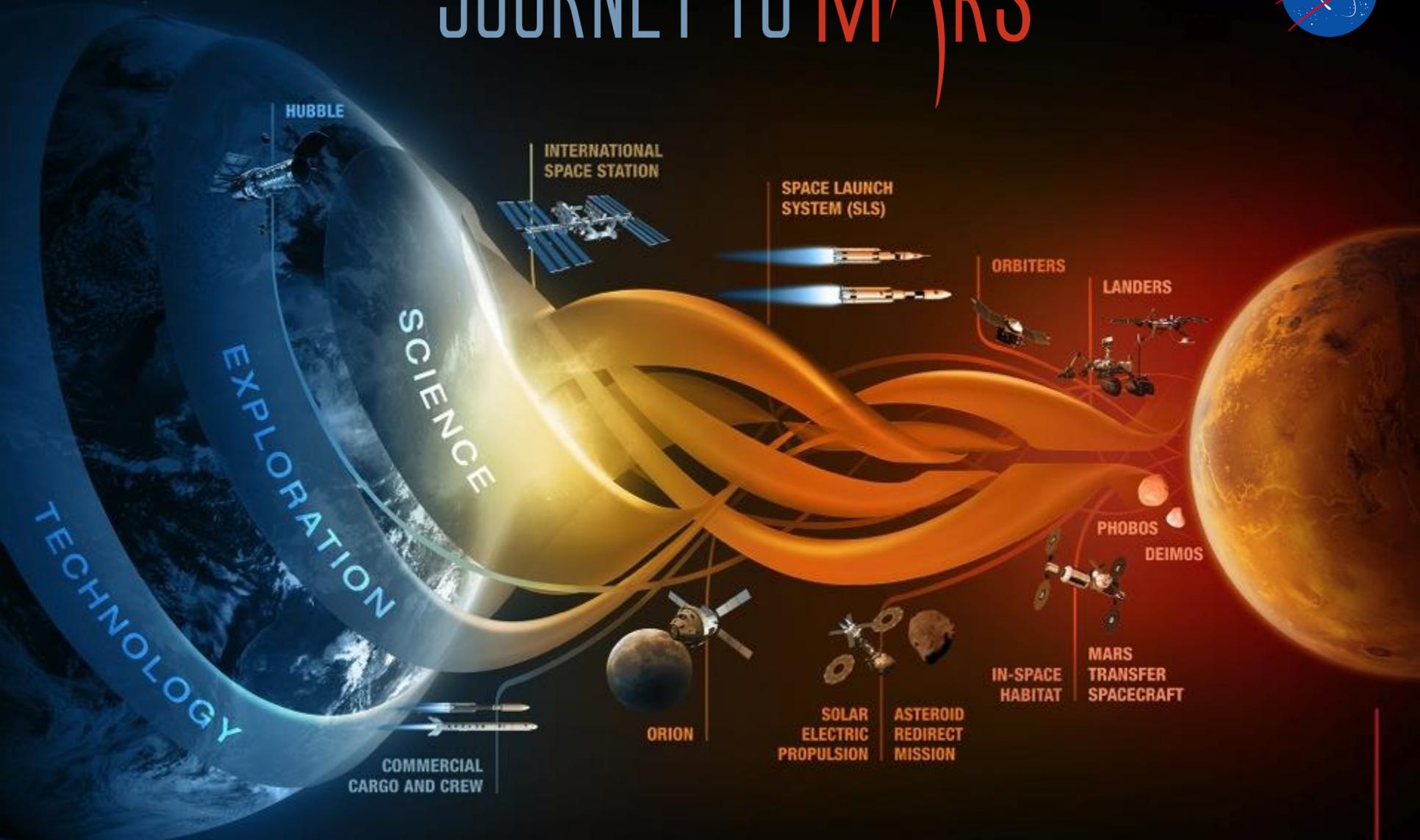
SSmall BBusiness IInnovation RResearch SSmall BBusiness TTechnology TTransfer

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Technology Infusion Manager (JPL)

June 1, 2016



JOURNEY TO MARS



MISSIONS: 6-12 MONTHS
RETURN: HOURS

EARTH RELIANT

MISSIONS: 1 TO 12 MONTHS
RETURN: DAYS

PROVING GROUND

MISSIONS: 2 TO 3 YEARS
RETURN: MONTHS

EARTH INDEPENDENT

Starts Here on Earth

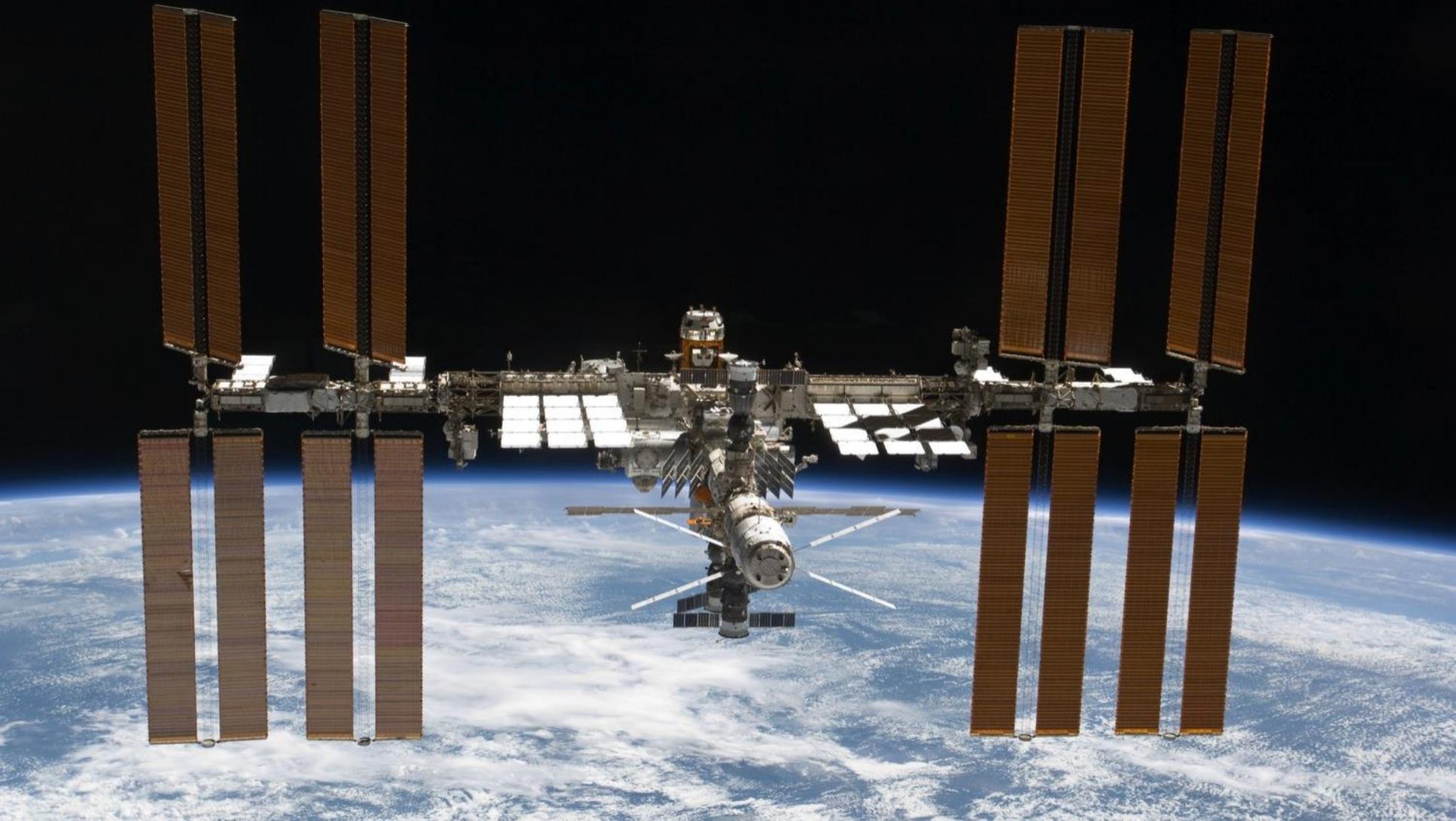


Popular with U.S. military and intelligence agencies, the systems have been used in missile ranges, severe weather, and emergency response situations.

SRS TECHNOLOGIES



SBIR Manufactures in Space



First Zero-Gravity 3D Printer



Made In Space's Zero-G Printer was launched to the ISS on September 21, 2014 making it the first company to manufacture in zero gravity. This will allow for lighter payloads in launch and real time manufacturing of necessities such as tools for repairs.

MADE IN SPACE

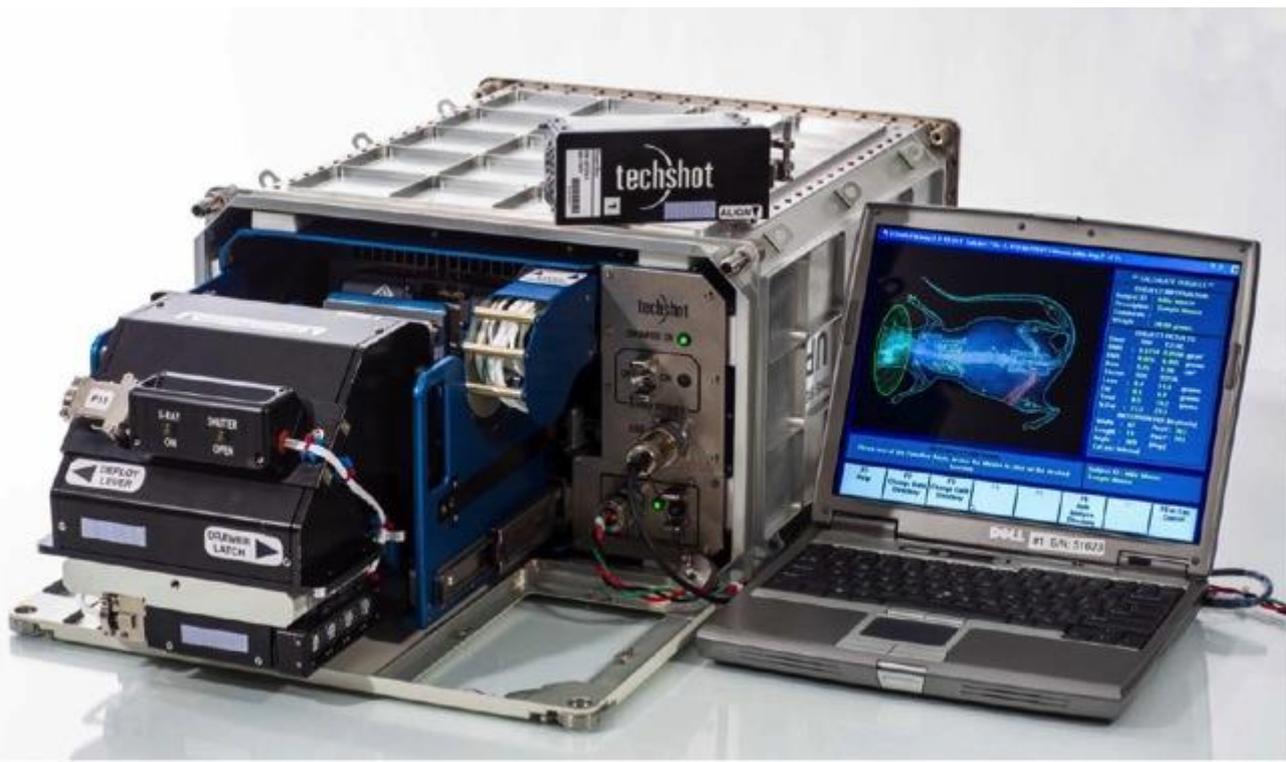


Bone Densitometer

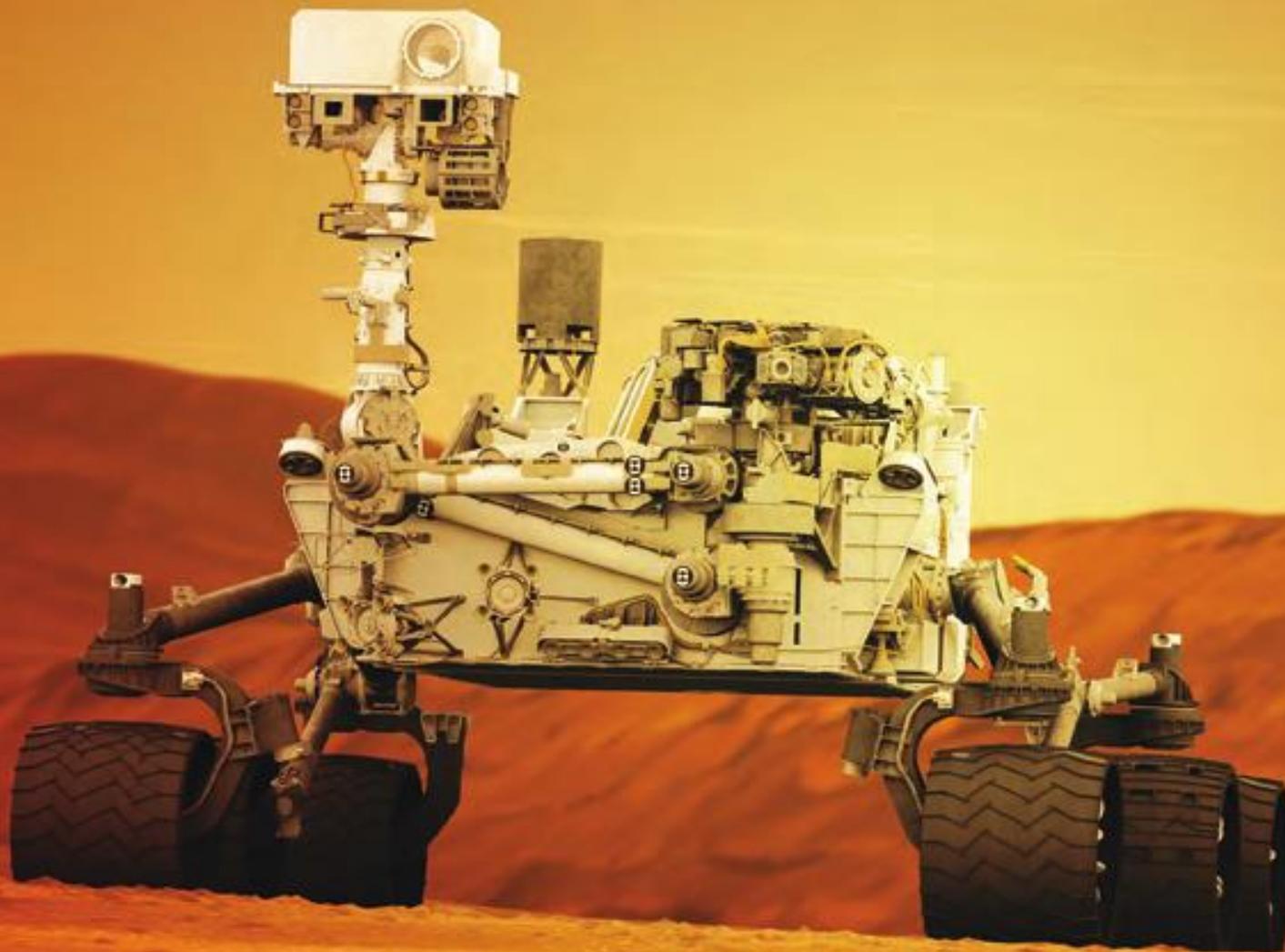


The first x-ray machine flew up to the ISS in 2014. It has allowed NASA to study bone density in rats and can potentially be used to assess the extent of bone injuries.

Techshot, Inc.



SBIR Lands on Mars



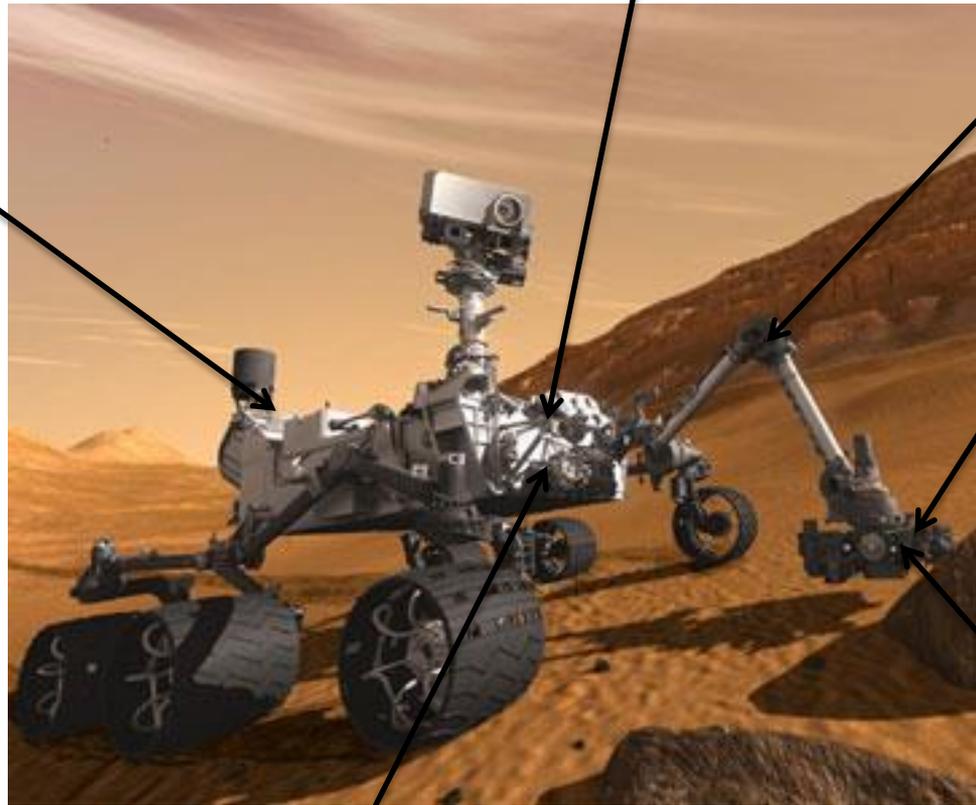
SBIR Technologies on Curiosity Rover



Yardney Technical Products, Pawcatuck, CT
Lithium ion batteries

Creare, Hanover NH
Space-qualified vacuum pump

Starsys Research, Boulder, CO
Gearboxes for robotic arm



Honeybee Robotics, NY, NY
Dust removal tool

Grammatech, Ithica NY -
Software for rover operations

inXitu, Campbell, CA
Chemistry and Mineralogy experiment (CheMin) instrument

Overview



- Every technology development investment dollar is critical to the ultimate success of NASA's mission
- Ultimate objective is to achieve infusion of critical technologies into NASA
- Mission Directorates establish high priority needs and existing gaps
- NASA Centers are home to NASA's development projects, research facilities, and Subject Matter Experts and therefore play a critical role

Contact Information



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A wide-angle, low-angle shot of a Martian landscape at sunset or sunrise. The sky is filled with dramatic, orange and yellow clouds, with a bright sun low on the horizon casting long, golden rays across the scene. In the foreground, a deep, dark red crater rim is visible. On the rim, several pieces of Mars exploration equipment are silhouetted against the bright light: a rover on the left, another rover in the center, a rover with a large cargo trailer in the middle-right, and a person standing on the far right. The overall atmosphere is one of quiet exploration and discovery.

THE EVOLUTION OF A MARTIAN



Back Up Slides

Participating Federal Agencies

SBIR + STTR Programs



Department of
Defense (DoD)



Department of
Health and Human
Services (HHS)



Department of
Energy (DoE)



National Aeronautics
and Space
Administration (NASA)



National Science
Foundation (NSF)

SBIR Program only:



Department of
Agriculture
(USDA)



Department of
Education (DoEd)



Department of
Transportation (DoT)



Environmental
Protection
Agency (EPA)



Department of
Homeland Security
(DHS)



Department of
Commerce
(DoC)

Eligibility Requirements



Small Business Innovation Research (SBIR)

- 1 Organized for-profit U.S. business
- 2 At least 51% U.S. owned by individuals and independently operated
- 3 500 or fewer employees
- 4 PI's primary employment with small business during project
- 5 Intellectual Property Agreement

Small Business Technology Transfer (STTR)

- 1 Formal Cooperative R&D Effort with a U.S. Research Institution
- 2 Minimum 40% by small business, 30% by U.S. Research Institution
- 3 Small business is Prime, PI can be from SBC or Research Institution
- 4 Other SBIR Requirements Apply

Structure of the Programs



Phase I: **Concept**

- Award Guideline: \$125K
- Duration: 6 months (SBIR)
12 months (STTR)



Phase II: **Full Research, R&D to Prototype**

- Award Guideline: \$750K
- Duration: 24 months
 - Phase II-E



Phase III: **Commercialization/Infusion**

- Non-SBIR/STTR funds
 - Contract from NASA program, other agency, prime contractor

Solicitation Development



FY16: Fourth Quarter

November 2016

With Mission Directorates and Centers- define Subtopics for annual Solicitations

Release annual SBIR and STTR Solicitations

Examples of Topics from the 2016 Solicitations include:

- Integrated Flight Systems
- Space Transportation
- Autonomous and Robotic Systems
- Sensors, Detectors and Instruments
- Information Technologies

Review & Selection Process



FY17: Second Quarter	FY17: Third Quarter
Phase 2 selections from FY 2016 Awards	Phase 1 selections from 2016 Solicitations

Proposals are evaluated on these factors:

1. Scientific/Technical Merit and Feasibility
2. Experience, Qualifications and Facilities
3. Effectiveness of the Proposed Work Plan
4. Commercial Potential and Feasibility
5. Price Reasonableness



NASA SBIR/STTR Budget



Annual Award Budget FY16:

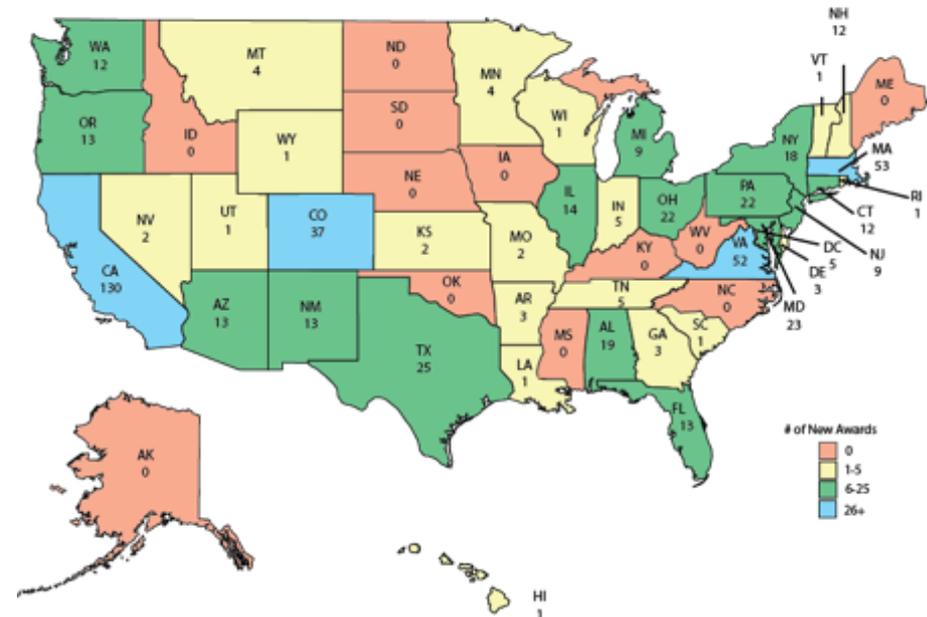
SBIR & STTR: ~\$185M

- SBIR is 3.0% of R&D in FY16 In FY17, NASA will increase the SBIR investment to 3.2%
- STTR is .45% of R&D in FY16

Past Glance of FY 15 Awards:

- SBIR Awards: 325 Phase I and 119 Phase II; 7 Phase I Selects and 10 Phase II Selects
- STTR Awards: 50 Phase I and 21 Phase II
- Phase II-E Awards: 31 SBIR/STTR Phase II-Es were awarded, leveraging \$5.36 M funds from non-SBIR sources

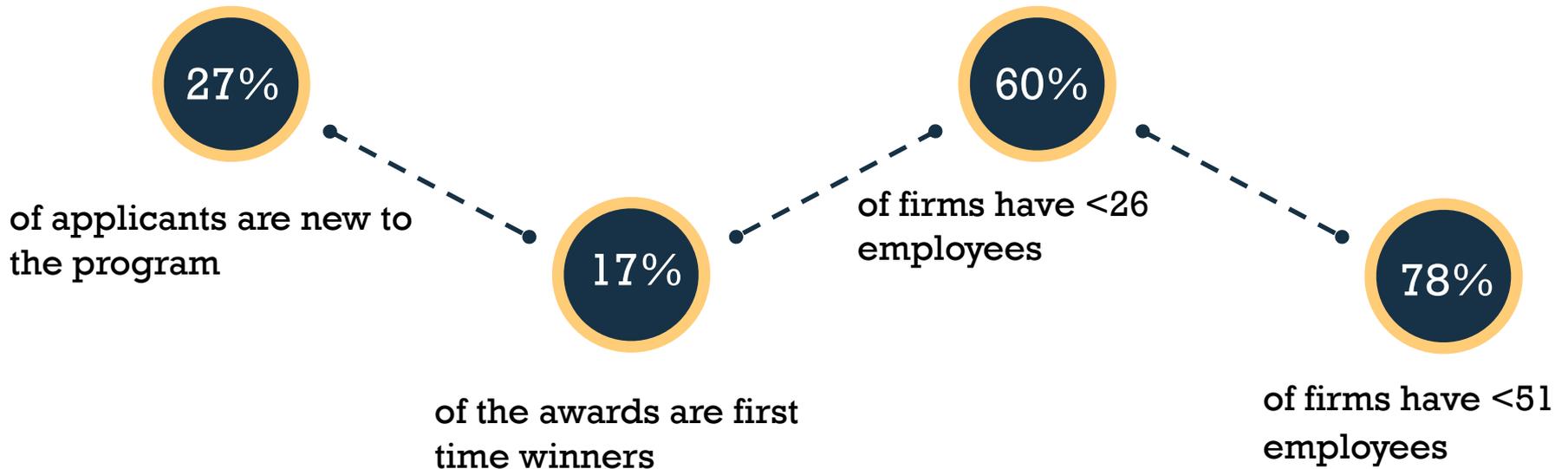
Fiscal Year 2015 SBIR/STTR Awards (Phase I, II, & II-E)



Participating Firms



FY 15 Phase I SBIR/STTR Awards



SBIR/STTR Homepage



SBIR/STTR
Small Business Innovation Research / Small Business Technology Transfer

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TECHNOLOGIES
IN THE NEWS
RESEARCH OPPORTUNITIES
FRAUD, WASTE & ABUSE

In the News
NASA and Star Wars: The Connections Are Strong in This One
Check out some of the real life technologies NASA is using in the exploration of our universe.
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Proposers
SBIR/STTR Basics
SBIR/STTR Schedule
Participation Guide
SBIR/STTR Firms Library
Model Contract
Training Resources
FAQs

Awardees
SBIR/STTR Schedule
SBIR/STTR Firms Library
Additional Sources of Assistance
Awardee Firm's EHB
Training Resources
FAQs

Demographics Data
State-based Statistics
Award Search
FY 2012 Economic Impact Report

Access the PY 2016 Solicitations (Next release date *November 2017)

Information for NEW firms available under "Proposers"

SBIR/STTR program analytics